

Figure 1

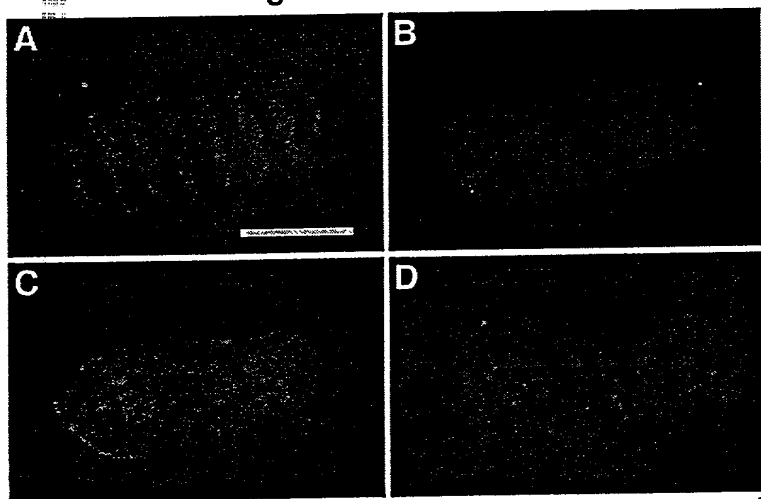


Figure 3

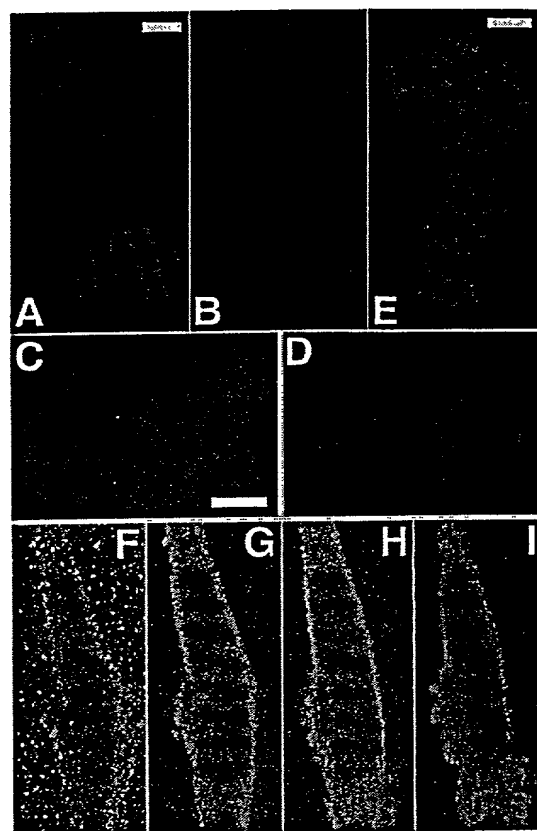


Figure 2

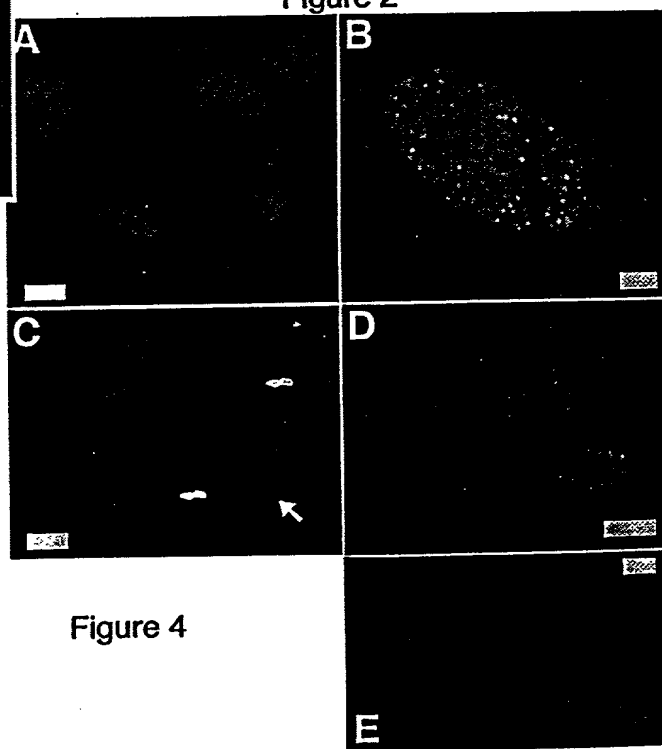


Figure 4



B

FVGRKN-CAITLNDOSISRNHAVLT-ANFSV p95
 FSGRSGSKNPITIKNDKSIROHITFKWEINNS xrs2
 TNLSDQDEIPVITIKONSKRYGTEVNE-ERMQNG p95
 SDIKHSS----CLVVRKGRLTSLNKKFMRVGT xrs2
 FSRITKSGCGTTFGVFG---SKFRIEVE p95
 F--TINASVVKSTIIELGTPIRIEFE xrs2

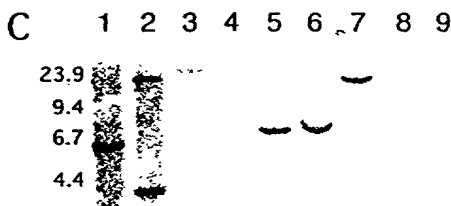


FIGURE 6

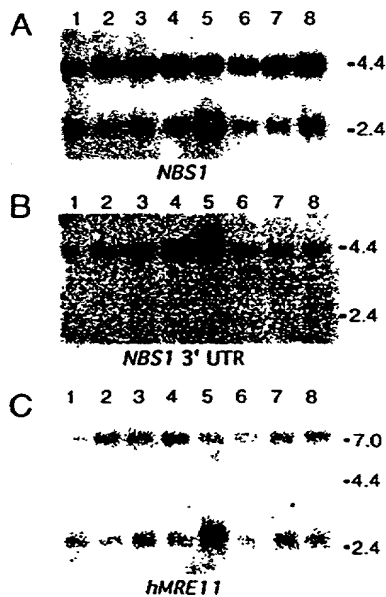


FIGURE 7

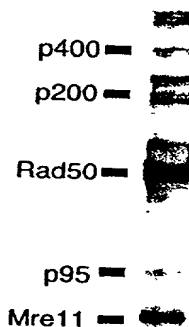


FIGURE 5

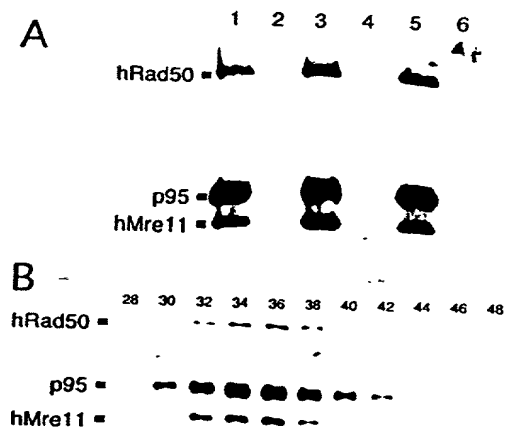


FIGURE 8

2007-09-20 10:00:00

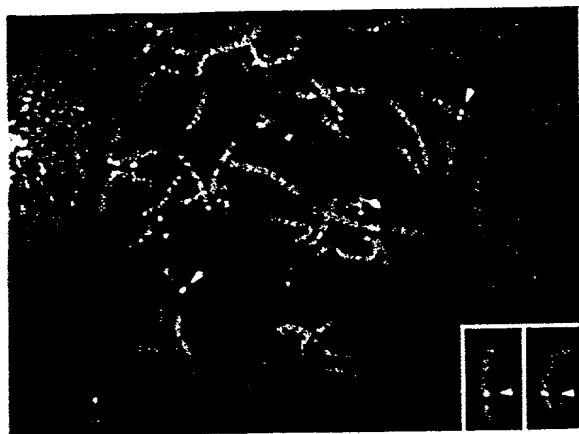


FIGURE 9

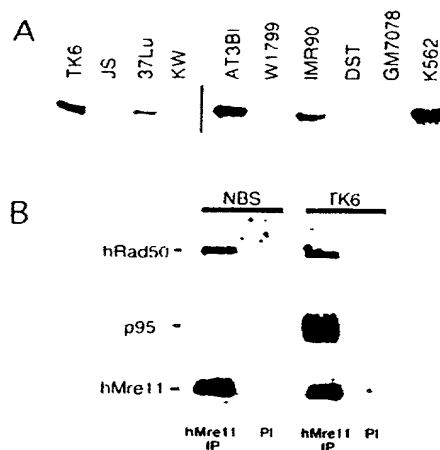


FIGURE 10

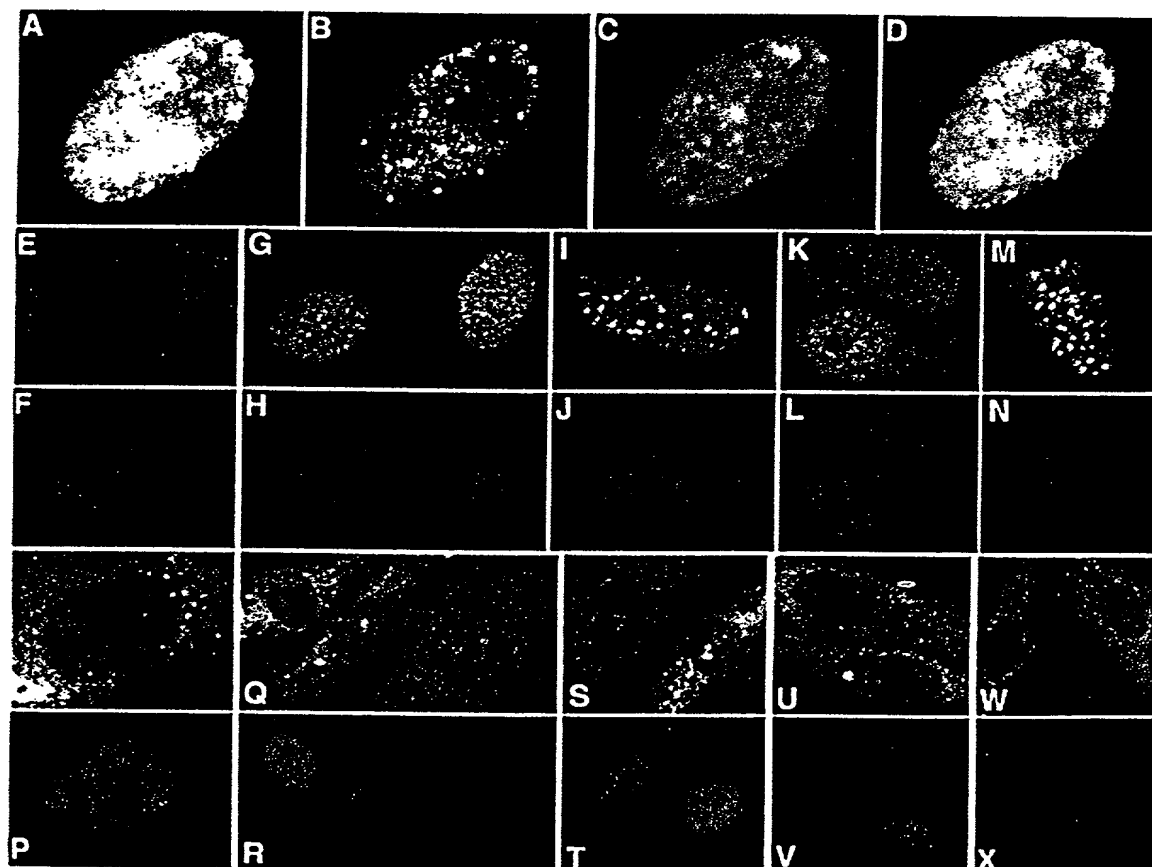


FIGURE 11

Figure 12

Amino Acid	Codon
Phe	UUU, UUC
Ser	UCU, UCC, UCA, UCG, AGU, AGC
Tyr	UAU, UAC
Cys	UGU, UGC
Leu	UUA, UUG, CUU, CUC, CUA, CUG
Trp	UGG
Pro	CCU, CCC, CCA, CCG
His	CAU, CAC
Arg	CGU, CGC, CGA, CGG, AGA, AGG
Gln	CAA, CAG
Ile	AUU, AUC, AUA
Thr	ACU, ACC, ACA, ACG
Asn	AAU, AAC
Lys	AAA, AAG
Met	AUG
Val	GUU, GUC, GUA, GUG
Ala	GCU, GCC, GCA, GCG
Asp	GAU, GAC
Gly	GGU, GGC, GGA, GGG
Glu	GAA, GAG

FIGURE 13

Original Residue	Exemplary Substitutions	Preferred Substitutions
Ala (A)	val; leu; ile	val
Arg (R)	lys; gln; asn	lys
Asn (N)	gln; his; lys; arg	gln
Asp (D)	glu	glu
Cys (C)	ser	ser
Gln (Q)	asn	asn
Glu (E)	asp	asp
Gly (G)	pro	pro
His (H)	asn; gln; lys; arg	arg
Ile (I)	leu; val; met; ala; phe norleucine	leu
Leu (L)	norleucine; ile; val; met; ala; phe	ile
Lys (K)	arg; gln; asn	arg
Met (M)	leu; phe; ile	leu
Phe (F)	leu; val; ile; ala	leu
Pro (P)	gly	gly
Ser (S)	thr	thr
Thr (T)	ser	ser
Trp (W)	tyr	tyr
Tyr (Y)	trp; phe; thr; ser	phe
Val (V)	ile; leu; met; phe; ala; norleucine	leu

ttccggcagcaggcgcggttgacgctcgccccagccctgaggagccggaccgatgtggaaactgctgcccgccgcgggcc
 cggcaggaggagaaccatacagacttttgactggcggttgagtacgttgttgggaaggaaaaactgtgccatttctaattgaa
 aatgatcagtcgatcagccgaaatcatgctgtgttaactgctaacttttctgtaaccaacctgagtcacacagatgaaat
 ccctgtattgacattaaaagataattctaaagtatgggtacctttgttaatgaggaaaaaatgcagaatggcttttcccgaa
 ctttgaagtcgggggatgggtattacttttggagtggttgggaagtaaatcagaatagagtgatgagcctttgggtgcatgc
 tcttcttgttttagatgtctctgggaaaactgctttaaactcaagctatattgcaacttggaggatttactgtaacaattg
 gacagaagaatgcactcaccttgcctgggtatcagtgaaagtaccattaaaaacaatatgtgcactcatttgggacgtc
 caattgtaaagccagaatattttactgaattcctgaaagcagttcagtcacaagaagcagcctccacaaattgaaagt
 taccacactcttgatgaaccatctattggaagtaaaaaatgttgatctgtcaggacggcaggaaagaaaaacaaatcttcaa
 agggaaaacattttatatttttgatgccaacagcataagaaattgagttccgcagttgtctttggagggtggggaagcta
 ggttgataacagaagagaatgaagaagaacataatttcttttgggtccgggaacgtgtgtgttgataggaataaca
 aactcacagaccttaattcctgactgtcagaagaaatggattcagtcacaaatggatagctccaaaggcaaggtcttag
 acctattcctgaagcagaatggattggcggtgatttctcatgactacaaagaattactgtgatcctcaggggccatccca
 gtacaggattaaagacaaactccaggaccaagcctttcacaggcggtgtcagttgatgaaaaactaatgccaagcgcc
 ccagtgaaactacaacatacgtagctgacacagaatcagagcaagcagatacatgggatttgagtgaaggccaaaaga
 aatcaaagtctccaaaatggaacaaaaattcagaatgctttcacagacgcacccactgtaaggagtcctgcaaaaaca
 gctctaataataatagtatgggtatcaaatactttggctaagatgagaatcccaactatcagctttcaccaactaaattg
 ccaagtataaataaaagtaaaagatagggtctctcagcagcagcagaccaactccatcagaaactactttcagcgtctac
 caaaaaaagggaaggatgaagaaatcaagaaatgtcttcatgcaaatcagcaagaatagaaacgtcttgttctcttt
 tagaacaacacaaactgctacaccctcattgtggaaaaataaggagcagcatctatctgagaatgagcctgtggacaca
 aactcagacaataacttatttacagatacagatttaaaatctattgtgaaaaatcttgccagtaaatctcatgctgcaga
 aaagctaagatcaataaaaaaagggaatggatgatgtggccatagaagatgaagtattggaacagttattcaaggaca
 caaaaccagagttagaatgtgatgtgaaagtcaaaaacaggaggaagatgtcaatgttagaaaaaggccaaggatggat
 atagaacaaatgacactttcagtgatgaagcagtcaccagaaaagtacaaaatatctcaagaaaaatgaaattgggaagaa
 acgtgaactcaaggaagactcactatgggtcagctaaagaaatatctaacaatgacaaactcaggattgtgagatgc
 ttccaaaaaagctgttattgactgaatttagatcactgggtgattaaaaactctacttccagaaatccgtctggcataaat
 gatgattatgggtcaactaaaaaatttcaagaaattcaaaaagggtcacatactctggagcaggaaaaacttccacacatcat
 tggaggatcagatctaataagctcatcatgctcgaaagaatacagaactagaagagtggttaaggcaggaaatggaggtaac
 aaaatcaacatgcaaaagaagagtccttctgctgatgatctttttagatacaatccttattttaaaggagaagataactg
 aggtttttaaagaagccatggaaaaacttcttagtaagcatctacttcaggccaacaagggttatatgaatatatagtg
 tatagaagcgatttaagttacaatgttttatggcctaaatttataaataatgcacaaaactttgattcttttgtatg
 taacaattgtttgtctgttttccaggctttgtcattgcatcttttttccattttttaaattgtgttttattaaatagt
 taatatagtcacagttcaaaattctaaatrtacgtgaaggtaaggactaaagtcacccttccaccattgtcctagctact
 tgggtccctcagaaaaaattcatggatactcatttcttatgratctttccagggtttttgagtcctattcaaatcc
 tatttttaataaatttctacacaaatgatagcataacatatgcagtggtctacaccttgcttttttacttagtaagatt
 aaaaattataggaatatcaatataatgttttaatatatttttcttttccattatgctgtagtccttacctaaactctgggtg
 atccaaacaaaatggcttcagtggtgcagatgtcacctacatgttattctagtactagaaactgaagaccatgtggagac
 ttcatcaaacatgggttagttttaccagaaatggaagacgtgaccttttttgggtggtcttactgagctgggtgggt
 gtctgttttgagcttatttagagtcctagttttctacttataaagtagaaatgggtgagattgttttcttttctacckt
 aaaggggagatggtaagaaacaatgaatgtcttttttcaaaacttattgacaagtgttttcaagtcctgtgttcaaaaata
 tattcatgtacctgtgatccagcaagaaggaggtccagtcagaaggtcactacaactgattagttgttttagagaatgaga
 aatggaacagtgaggaatggaggccatatttccatgacttcccttgtaaacagaagcaacagaagggaagaggtggc
 ctctacatcactctcaccttccaaatcttgtggaagtgcattctacttgccagaaccaaattaacttacttccaagttctg
 gctgcttgcaagtggaactccagctgcaaggaggttagggaaatgaaggtctttttttaaaggcttctcagccttccatg
 ggaacagaaattgggtgagccaatctgcaatttctactacagcattgagaccagttagattattgaaatattatagaga
 gttatgaacacttaaatatgatagtggtatgacattggatagaacatgggatactttagaagtagaattgacagggcacat
 attagttgatgaaatggagtcatttgagtctytaaataagccatgtatcataattaccaagtgaaagtggtgggaacatag
 gtctccattttacagtttaaggaatataatggacagattaatattgttytctgtcatgcccacaatccctttctaaggaag
 actgcctactatagcagtttttatatttgtaatttatgaatataatgaatgaggagttctgggtacctcctgtctttac
 aaatattgggtgtgtccagttttttccctttttaacmtecccaattcgggtgtgtaggtggatgtttccatttgggt
 ttttaattgtatatccctgatagctataattgggtcatagaattctttatacatcttagatgcaagtccttgycggtat
 atacgtattgagatattacaccttagctgtgcttgcatttctttatgtcttttgatgaatagaagttttaaatttt
 gacaaggtcaaaatttattttttcttttgggttggatatttttctctccaaatttaaccccaagatttcagatattctgtct
 tattatataaacttttatatttttatatttggatctaccttgaattgatattgtattgtgaattatggatcagggtctc
 tttttcccccatacaagtatccagtcattgtaacactgtttattgaaagaattatcccttctcattaaattaccttgc
 caatttagtaaaaaatcaattaaccatrmarmmmrrrggatccactagtcttagagcgcccgccaccgcggtggagctcca
 gct

FIGURE 14

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

MWKLPAAGPAGGEPYRLLTGVEYVVGKNCAILIENDQSI SRNHAVLTANFSVTNLSQTDEIPVLTLDNSKYGTFVNE
EKMONGFSRTLKSGDGI TFGVFGSKFRIEYEP LVACSSCLDVSGKTALNQAILQLGGFTVNNWTEECTHLVMVSVKVTIK
TICALICGRPIVKPEYFTEFLKAVQSKKQPPQIESFYPPLEPSIGSKNVDLSGRQERKQIFKGKTFIFLNAKQHKKLSS
AVVFGGGEARLITEENEEHNFFLAPGTCVVDTGITNSQTLIPDCQKKWIQSIMDMLQRQGLRPIPEAEIGLAVIFMTTK
NYCDPQGH PSTGLKTTTPGPSLSQGVSVDEKLMP SAPVNTTTYVADTESEQADTWDL SERPKEIKVSKMEQKFRMLSQDA
PTVKESCKTSSNNNSMVSNTLAKMRIPNYQLSPTKLPSINKSKDRASQQQQTNSIRNYFQ PSTKKRERDEENQEMSSCKS
ARIETCSLLEQTQPATPSLWKNKEQHLSENEPVD TNSDNNLFTDTLKSIVKNSASKSHAAEKLRSNKKREMDDVAIED
EVLEQLFKDTKPELEIDVKVQKQ EEDVNVKRPRMDIETNDTF SDEAVPESSKISQENEIGKKRELKEDSLWSAKEISNN
DKLQDDSEMLPKKLLLTEFRSLVIKNSTSRNPSG INDDYGQLKNFKFKKVTYPGAGKLPHIIGGSDLIAHHARKNTELE
EWLRQEME VQNQHAK EESLADDLFRYNPYLKRRR.

FIGURE 15